

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

UNITED STATES OF AMERICA

v.

MEHDI NIKPARVAR-FARD,
a/k/a MEDI ARMANDI,

Defendant.

Criminal Action

No. 18-101-1 (GEKP)

**DEFENDANT MEHDI NIKPARVAR-FARD'S RULE 16(b)(1)(iii) EXPERT DISCLOSURE
OF DR. THOMAS T. SIMOPOULOS**

Defendant Mehdi Nikparvar-Fard, under Federal Rule of Criminal Procedure 16(b)(1)(iii), provides notice that he intends to call Dr. Thomas T. Simopoulos as an expert witness at trial in this action, as follows:

1. **Dr. Simopoulos's Qualifications.** Dr. Simopoulos will testify about his qualifications to provide expert testimony as to his opinions set forth below, based upon his professional experience set forth in his Curriculum Vitae, a copy of which is attached as **Exhibit A**, and his review of materials produced by the Government in this case, including the reports of Dr. Stephen Thomas, as well as publicly available medical literature.

2. **Basis of Dr. Simopoulos's Opinions:** Each of Dr. Simopoulos's opinions are based upon the knowledge and experience he has gained as a physician who has specialized in the treatment of pain management for more than twenty years. During his career, he has served as the Division Chief for the Arnold Warfield Pain Medicine Center, has taught at Harvard Medical School, has conducted research related to pain, and has written about the use of opioids in treating pain. To this day, he continues to treat patients for pain with opioid and other therapies, supervise fellows specializing in pain management, and teach at Harvard Medical School.

3. **Definitions of chronic pain.** Dr. Simopoulos will testify that the definitions of "chronic pain" include: (A) pain lasting more than 3 months; (B) pain lasting more than 6 months; (C) pain outlasting the expected time for tissue healing; and (D) pain that is neither acute pain nor

cancer-related pain. This opinion is based upon his training and experience, including, but not limited to, the years he has spent as a treating physician for Beth Israel Deaconess Medical Center's Pain Medicine Center.

4. **Long history of opioids as the cornerstone of pain management.** Dr. Simopoulos will testify that opioids have been used for pain management for more than 4,000 years, including by Hippocrates (namesake of the "Hippocratic Oath"), and that no better class of pain killers have been discovered. Dr. Simopoulos will further testify that physicians are taught that opioids enable patients who are in pain to function (*i.e.*, to work, sleep, and enjoy time with family). Dr. Simopoulos will testify about the severe consequences of chronic pain, including common intractability of chronic pain. Chronic pain is very well known to cause substantial impairment of physical and psychological health, as well as performance of work and life responsibilities. Chronic pain remains very challenging to treat in the long-term and not uncommonly responds poorly to interventional pain therapies, physical therapy, surgery, and non-opioid therapy. He will further point out that non-opioid therapies come with substantial costs and are not covered by insurance. Dr. Simopoulos will further testify that patients in chronic pain frequently request and view opioids as a necessary component of their pain management. There is substantial professional disagreement within the medical community of whether, when, how much, and how long to prescribe opioids to pain patients. His opinion is based upon his training and experience, including, but not limited to, the years he has spent treating patients for pain and teaching about the use of opioids in managing pain.

5. **Differences between addiction, physical dependence, and tolerance.** Dr. Simopoulos will testify that "physical dependence" and "addiction" are not synonymous, and that a patient who has a physical dependence on opioids cannot be assumed to be "addicted" to opioids. Dr. Simopoulos will testify that opioid use disorder and chronic pain very commonly co-exist. He will further state that, among the reasons for relapse of patients with opioid use disorder, the most common is chronic pain. Distinguishing these two clinical entities from one another can be very

challenging, and both can have exacerbations or relapses. Dr. Simopoulos's opinion is based upon his training and experience, including, but not limited to, the years he has spent treating patients for pain and teaching about the use of opioids in managing pain.

6. **Spectrum of the usual course of professional practice.** Dr. Simopoulos will testify that a doctor who is engaged in the usual course of the professional practice of medicine (*i.e.*, a "doctor acting as a doctor") has a practice that falls within a spectrum ranging from "the best possible practice" to "malpractice." Dr. Simopoulos will testify further that a doctor whose practice is superior to "malpractice" has satisfied the doctor's duty of care to their patient. Dr. Simopoulos will testify further that a doctor who has engaged in "malpractice" may have deviated from the requisite "standard of care," but this deviation alone is insufficient to establish that the doctor has engaged in activity falling outside the usual course of the professional practice of medicine. Dr. Simopoulos will testify further that only a doctor who is intentionally not engaged in the usual course of the professional practice of medicine can be considered to have engaged in illegitimate "drug dealing" (*i.e.*, the doctor intended to commit a crime, not to treat the patient). Lastly, Dr. Simopoulos will testify that proposed guidelines from various government agencies at the federal and state level, as well as professional physician organizations, set best practices that are above the standard of care. A practicing physician who is not at the level of these guidelines is still engaged in the practice of medicine, so long as care is provided for the condition he or she has diagnosed in the context of a documented physician-patient relationship. This opinion is based upon his training and experience, including, but not limited to, the years he has spent as a treating physician for Beth Israel Deaconess Medical Center's Pain Medicine Center and teaching at Harvard Medical School.

7. **Assessment of legitimate medical purpose.** Dr. Simopoulos will testify that assessment of whether a prescription was given for a "legitimate medical purpose" requires assessment of the following: (A) whether a doctor's diagnosis provides an explanation for the patient's pain, and (B) whether the doctor's diagnosis was based upon the doctor's consideration of

the patient's statements, a physical examination, diagnostic tests, and, potentially, the opinions of other physicians. Dr. Simopoulos will further testify that the mere presence of "red flags" of addiction or pseudo-addiction does not eliminate a legitimate medical purpose, because drug addicts and recreational users of street drugs also suffer injuries that provide a legitimate medical purpose for the prescription of opioids. He will testify about the lack of firm standards on history, physical exam, or diagnostic testing that relates to the prescribing of opioids. There is great debate in the physician pain medicine community of how a prescribing physician should respond to potential signs of abuse and misuse of controlled substances by patients who are part of a legitimate practice of medicine. As a result, physicians must rely upon their own clinical judgement to determine the dose, continuation, and under what circumstances to prescribe opioids. In 2014 (relevant to the time period in this case), for example, the National Institutes of Health held a work shop entitled "Pathways to Prevention Workshop: The Role of Opioids in the Treatment of Chronic Pain," in which the panel of highly regarded pain experts concluded that "there is insufficient evidence for every clinical decision that a provider needs to make regarding the use of opioids in chronic pain, leaving the provider to rely on his or her own clinical experience." In short, there has yet to be developed specific clinical criteria that specifies when to initiate, maintain, or cease chronic opioid therapy. This opinion is based upon Dr. Simopoulos's training and experience, including that part of his medical practice that includes writing prescriptions for pain patients and his experience teaching medical students when such prescriptions are appropriate.

8. **Assessment of usual course of professional practice.** Dr. Simopoulos will testify that assessment of whether a doctor is acting in the "usual course of professional practice" requires assessment of the following: (A) the presence of a physician-patient relationship; (B) whether the doctor analyzed the patient's medical history and performed a physical examination of the patient; (C) whether the doctor ordered diagnostic tests or referred the patient to other physicians as necessary; (D) whether the doctor maintained patient medical records; (E) whether the doctor

prescribes drugs and treatments other than opiates; and (F) whether the doctor charges patients by the visit. He will further testify that there are no specifics in the physical exam that specifically supports or refutes the use of chronic opioid therapy. A complete history and physical exam is frequently recommended for chronic opioid therapy, yet research shows that an accurate diagnosis is often lacking in up to 80% of patients with chronic spinal pain. This opinion is based upon Dr. Simopoulos's training and experience, including that part of his medical practice that includes writing prescriptions for pain patients and his experience teaching medical students when such prescriptions are appropriate.

9. **Teachings in pain management from 2002 through 2013.** Dr. Simopoulos will testify that a doctor's obligation to "do no harm" applies equally to a patient's pain management, but physician education as to pain management techniques remains poor. Dr. Simopoulos will further testify that research conducted between 2002 and 2013 shows that pain is vastly undertreated, and that patients are known to mislead doctors about pain symptoms. Dr. Simopoulos will further testify that there is a lack of physician education about the identification of "red flags" indicating aberrant patient behaviors, and techniques for physicians to respond to these "red flags." Dr. Simopoulos will further testify that physician techniques for addressing "red flags" include: (A) "titrating up" dosage (*i.e.*, slow incremental increases in dosage until the patient reaches the "target" dosage); (B) conducting physical examinations to assess and verify patient complaints about pain symptoms; and (C) entering into "pain management agreements" with patients to facilitate doctor-patient communication, and to manage substance abuse risks. Dr. Simopoulos will further testify that drug testing interpretation and physician action are not standardized in the medical profession, leading to wide variances in pain management techniques among doctors in professional practice. He will testify that physicians caring for patients with chronic pain are left to guess exactly what is necessary in order to prescribe opioids. Furthermore, guidelines caution on the use of opioids for chronic pain in those who have co-existing psychiatric illness and/or substance abuse history, but do not define

absolute contraindications to opioid therapy in clinical practice. Indeed physicians are left with very little guidance on these challenging patients who frequently present with chronic pain complaints. Dr. Simopoulos will further testify about pain management techniques and philosophies taught by leading medical experts and institutions, including:

The under treatment of pain is recognized as a serious public health problem that results in a decrease in patients' functional status and quality of life and may be attributed to a myriad of social, economic, political, legal and educational factors, including inconsistencies in state pain policies.

Model Policy for the Use of Controlled Substances for the Treatment of Pain, Federation of State Medical Boards (2004) .

Hippocrates' seemingly straightforward directive to "first, do no harm" is anything but simple in today's medical practice. Nowhere is its complexity more evident, and vexing, than in pain management with controlled substances—particularly with opioids.

Responsible Opioids Prescribing: A Physician's Guide, Scott Fishman (2007).

Although the *Model Policy* represents the most concise consensus guidelines for safe opioid prescribing, ***until now this document has not been translated into practical terms for clinical practice. Consequently, few physicians are familiar with these guidelines, and even fewer utilize them in their practice. This book answers that unmet physician need*** by explaining how to incorporate the *Model Policy* into your real-life practice.

Id. (emphasis added).

The patient must be treated as a complete person and not just as a painful location. ***Believing the patient and establishing rapport are of the utmost importance.***

Massachusetts General Hospital Handbook of Pain Management (2d ed. 2002) (emphasis added).

This opinion is based upon Dr. Simopoulos's training and experience, including that part of his medical practice that includes addressing aberrant patient behaviors and, as a long-time active member of the teaching community, his knowledge of the past and current status of physician education.

10. **Teachings about drug testing from 2002 through 2013.** Dr. Simopoulos will testify that there are four types of drug tests: (A) blood tests, (B) urine tests, (C) lab tests, and (D) office tests. Dr. Simopoulos will further testify that urine testing is most common, as the presence of drugs in the bloodstream is detectable for only a matter of hours, and at much lower levels than in urine. Dr. Simopoulos will further testify that physician education as to proper use of random urine drug was slowly defined between 2002 and 2013. Dr. Simopoulos will further testify that drug testing is sometimes used by pain management doctors as a response to potential drug-related aberrant behavior, but that experts vary widely on the proper responses to drug tests. He will point out again, that the interpretation and decision making concerning urine drug testing is left up to physician judgement do to the lack of strict guidelines. In a peer review article entitled “Recommendations for Urine Drug Monitoring as a Component of Opioid Therapy in the Treatment of Chronic Pain” published in 2012, leading pain medicine experts explained that, although the article suggests some recommendations for urine drug monitoring, those recommendations “should be considered based on weak evidence and recognizing that clinical opinion varies considerably.... It is expected that the recommendations presented in this document will generate considerable debate among practicing clinicians and policy makers.” This opinion is based upon Dr. Simopoulos’s training and experience, including that part of his medical practice that includes addressing aberrant patient behaviors and, as a long-time active member of the teaching community, his knowledge of the past and current status of physician education.

11. **Teachings about the unreliability of drug tests from 2002 through 2013.** Dr. Simopoulos will testify that the use of drug tests by pain management doctors was adapted from workplace testing for illicit drugs. Dr. Simopoulos will further testify that drug tests commonly return false negative and false positive results, and that reliance upon a single drug tests alone is therefore inadvisable. Dr. Simopoulos will further testify that there is a lack of education among physicians on how to interpret drug tests. Dr. Simopoulos will further testify that a negative result

following point-of-care testing does not mean a drug is not present in a patient's system; for instance, point-of-care testing may detect hydrocodone, hydromorphone, or oxymorphone, but point-of-care testing generally will not detect oxycodone, fentanyl, Demerol, methadone, or Darvon. Dr.

Simopoulos will further testify that the reasons a test may return a negative result for prescribed pain medication include: (A) the test did not include the prescribed pain medication; (B) the patient's appointment was more than 30 days from the last prescription; (C) the patient finished the medication early; (D) laboratory error; (E) pain medication was present, but below the detectability threshold of the test; (F) the patient did not use the prescribed pain medication; (G) the patient has a rapid metabolism; (H) the drug test was misread or misinterpreted; and (I) diversion (*i.e.*, misuse of prescription drugs contrary to the prescriber's intent). This opinion is based upon Dr. Simopoulos's training and experience, including, but not limited to, the years he has spent as a treating physician for Beth Israel Deaconess Medical Center's Pain Medicine Center.

12. **Characteristics of unlawful medical practices.** Dr. Simopoulos will testify that unlawful medical practices tend to have the following characteristics: (A) cash-based practice; (B) out-of-state patients; (C) intoxication on practice site; (D) prescribing with no variation and in combination with a benzodiazepine and muscle relaxant (*e.g.*, soma); (E) little to no drug monitoring; (F) high doses of medication and no adjustment of appointments or medications; (G) multiple short duration of action opioids, with no sustained release preparations; and (H) a very large number of patients seen in a day, with little-to-no medical history, physical, or laboratory evaluation. In addition, such practices offer little to no other significant medical services other than the prescribing of controlled medications. Dr. Simopoulos's opinion is based upon his training and experience, including but not limited to, the years he spent as co-director of Beth Israel Deaconess Medical Center's Pain Medicine Center.

13. **Indications that Dr. Nikparvar-Fard acted in the usual course of professional practice and in good faith.** Dr. Simopoulos will testify that, based upon his twenty-plus years of

clinical experience treating pain management patients and teaching in this area, his review of the patient records and other evidence produced by the Government, in his expert opinion, Dr.

Nikparvar-Fard acted in the usual course of professional practice, and in good faith, when prescribing opioids to patients, because Dr. Nikparvar-Fard used the following treatment techniques to evaluate the appropriateness of prescription opioids on a patient-by-patient basis: (A) evaluation of medical history, including pharmacy records, and later online prescription drug monitoring program; (B) physical examinations; (C) diagnoses; (D) use of informed consents and pain management agreements; (E) non-opioid treatments; (F) referrals to other physicians; (G) regular appointments and adjustment of frequency depending on drug test results; (H) undertaking witnessed drug testing (both point of care testing and send out confirmations); (I) pain assessments; (J) tracking patient responses to medications; (K) continuing adjustment of medications; (L) use of diagnostic tests that must be verified by nurses; (M) ceasing prescription opioids as necessary; (N) requiring referrals from primary care doctors; and (O) operating an insurance-based practice. Overall, Dr. Nikparvar-Fard was making clinical judgments and practicing medicine. Dr. Simopoulos will also testify as to the clinical realities of a physician writing a prescription for a patient based upon review of the patient's medical records when the physical examination was completed by another physician.

14. **Dr. Nikparvar-Fard's response to red flags.** Dr. Simopoulos will testify that, based upon his twenty-plus years of clinical experience treating pain management patients and teaching in this area, his review of the patient records and other evidence produced by the Government, in his expert opinion, Dr. Nikparvar-Fard exhibited appropriate vigilance in response to patient "red flags" as to opioid treatments, including: (A) questioning of the patient about "red flags"; (B) discussion of "red flags" with the patient; (C) requiring urine drug screens in office; (D) requiring confirmatory drug screens be sent for lab analysis; (E) repeating drug screens; (F) changing prescribed medications; (G) adjusting medication dosage; (H) decreasing duration of prescribed medications; (I) ceasing medication as deemed necessary; (J) adding non-opioid medications and treatments;

(K) ordering more diagnostic testing; (L) using pain management agreements; and (M) repeating physical examinations.

15. **Dr. Nikparvar-Fard's approach to urine abnormalities.** The urine drug screening in chronic pain patients is known to have a high incidence of abnormal or aberrant findings. These findings can be a single or combination of lack of the prescribed substance(s), illicit substance(s), or other controlled substances. There was a significant proportion of patients in Dr. Nikparvar-Fard's practice that manifested in aberrant urine toxicology results. Given the well-documented lack of standards in the medical literature on how to exactly respond to these results, Dr. Nikparvar-Fard had to develop his own treatment approach to address these test results. The clinical approach he used was to enhance monitoring and perform very frequent return visits. Prescriptions were therefore for a limited supply of 1-2 weeks depending upon clinical judgement. This is now a common method to manage patients who have mixed substance abuse and pain disorders. Dr. Simopoulos will testify that, in his opinion, the evidence shows Dr. Nikparvar-Fard appropriately employed the following approaches to abnormalities in patient urine samples: (A) for indications of heroin, there was evidence of transitioning to methadone or suboxone; (B) for indications of cocaine abuse, weekly appointments with counseling; (C) for indications of marijuana, no action needed; (D) for indications of alcohol abuse, close monitoring; (E) if indications of diversion are proved, discharge the patient; (F) for indications of prescribed benzodiazepines, no action needed; (G) for indications of benzodiazepines or other opioids without a prescription, place patient on closer monitoring for a 1-2 week period; (H) if prescribed suboxone is not present in urine without explanation, patient is discharged; and (I) if suboxone is present in urine along with multiple substances, then patient is placed on weekly monitoring and referred to drug rehabilitation. In summary, discharge of a patient from the practice was used as a last resort, recognizing that the patient population at hand would likely deteriorate further into deeper substance abuse and overdose. This is well documented in the current literature and published in medical peer reviewed New England Journal of Medicine. In fact,

it is now widely recognized that requiring strict compliance of these types of patient populations has led to an increase in deaths from opioid overdoses. That none of Dr. Nikparvar-Fard's patients died from an overdose is evidence that his approach was successful. This opinion is based upon Dr. Simopoulos's review of patient records from Dr. Nikparvar-Fard's practice and his training and experience.

16. **Review of Patient Records.** Dr. Simopoulos will testify that he reviewed a substantial amount of records of Dr. Nikparvar-Fard's patients. Dr. Simopoulos will further testify that his review of these patient records are consistent with his opinion that Dr. Nikparvar-Fard acted at all times within the usual course of professional practice, and in good faith. Dr. Simopoulos will further testify that his review of these patients' records shows that each patient complained of pain symptoms to Dr. Nikparvar-Fard, and that, in Dr. Simopoulos' opinion, Dr. Nikparvar-Fard appropriately attempted to objectify that each patient's pain symptoms were legitimate, which is particularly difficult to do in these types of patient populations.

17. **Review of Dr. Thomas's Reports.** Dr. Simopoulos will testify that he reviewed the reports of Dr. Thomas and that he overlooks the realities of the challenging patient population that Dr. Nikparvar-Fard was treating. Dr. Thomas's approach that would require the discharge of any patient who shows even the most remote sign of substance abuse, regardless of whether that individual had legitimate pain complaints. This stringent approach does not account for the risk of discharging such patients or for the differing views in the medical community on how to best treat this type of patient population.

Respectfully submitted,

By: 

Thomas T. Simopoulos, M.D., M.A.

Department of Anesthesiology, Critical Care and
Pain Medicine - Beth Israel Deaconess Medical
Center

Associate Professor - Harvard Medical School

BLS and CLS Certification
Board Certified by the American Board of
Anesthesiology in Pain Management

Exhibit A

Curriculum Vitae**Date Prepared:** December 15, 2022**Name:** Thomas T. Simopoulos, M.D., M.A.**Office Address:** One Brookline Place, Suite 105 Brookline, MA 02445**Home Address:** 10 Andrews Way Southborough, MA 01772**Cell Phone:** 508-314-4277**Work Phone:** 617-278-8000**Work Email:** tsimopou@bidmc.harvard.edu**Education:**

1991	BA	Biochemistry	Brandeis University, Waltham, MA
1991	MA	Biochemistry	Brandeis University, Waltham, MA
1995	MD	Medicine	School of Medicine, University of Worcester, MA

Postdoctoral Training:

1995-1996	Intern	Medical Internship Preliminary Medicine	New England Medical Center, Faulkner Hospital, Boston, MA
1996-1999	Resident	Department of Anesthesiology	Brigham and Women's Hospital, Boston, MA
1999-2000	Fellow, Pain Management	Department of Anesthesiology	Beth Israel Deaconess Medical Center

Faculty Academic Appointments:

1996-1999	Clinical Fellow Anesthesia	Anesthesia	Harvard Medical School, Boston, MA
1999-2000	Clinical Fellow in Pain	Anesthesia	Harvard Medical School, Boston, MA
2000 - 2008	Instructor in Anesthesia	Anesthesia	Harvard Medical School, Boston, MA
2009-2020	Assistant Professor	Anesthesia	Harvard Medical School, Boston, MA
2021- present	Associate Professor	Anesthesia	Harvard Medical School, Boston, MA

Appointments at Hospitals/Affiliated Institutions:

2000 - Present	Associate in Anesthesia	Department of Anesthesia, Critical Care and Pain Medicine	Beth Israel Deaconess Medical Center, Boston, MA
2000- 2003	Member, Regional Anesthesia Team	Department of Anesthesia, Critical Care and Pain Medicine	Beth Israel Deaconess Medical Center, Boston, MA
2001 - 2006	Director Acute Postoperative Pain Service	Department of Anesthesia, Critical Care and Pain Medicine	Beth Israel Deaconess Medical Center, Boston, MA
2002 - 2016	Director of Interventional Pain Service	Department of Anesthesia, Critical Care and Pain Medicine	Beth Israel Deaconess Medical Center, Boston, MA
2016 - 2017	Interim Division Chief	Arnold Warfield Pain Medicine Center	Beth Israel Deaconess Medical Center, Boston, MA
2016 - 2017	Interim Co- Director	Spine Center	Beth Israel Deaconess Medical Center, Boston, MA
2017- 2021	Division Chief	Arnold Warfield Pain Medicine Center	Beth Israel Deaconess Medical Center, Boston, MA

2017- Co-director Spine Center
2021

Beth Israel
Deaconess
Medical
Center,
Boston, MA

Major Administrative Leadership Positions:

Local

2001 - 2006	Director of Acute Postoperative	Beth Israel Deaconess Medical Center, Boston, MA
2002 - 2016	Director of Interventional	Beth Israel Deaconess Medical Center, Boston, MA
2013-present	President Pain Physicians	Massachusetts Society of Interventional Pain Physicians
2016 - 2017	Interim Division Chief	Beth Israel Deaconess Medical Center, Arnold Warfield Pain Medicine Center, Brookline, MA
2016 - 2017	Interim Co-Director	Beth Israel Deaconess Medical Center, Spine Center, Boston, MA
2017 -2021	Division Chief	Beth Israel Deaconess Medical Center, Arnold Warfield Pain Medicine Center, Brookline, MA
2017 -2021	Co-director	Beth Israel Deaconess Medical Center, Spine Center, Boston, MA

Committee Service:

Local

2003-present	Pain Fellow Selection Committee	Beth Israel Deaconess Medical Center, Boston, MA, Member
2008 - 2012	Peer Review Committee	Beth Israel Deaconess Medical Center, Boston, MA, Member
2012 - 2017	Interventional Procedures Committee	Beth Israel Deaconess Medical Center, Boston, MA, Member

National and International

2006 - 2008	Board Examination Committee	American Board of Interventional Pain Board Examination Member
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Professional Societies:

1996-present	American Society of Anesthesiologists (ASA)	Member
1996-present	American Society of Regional Anesthesiologist (ASRA)	Member
2002-present	Massachusetts Society of Anesthesiologists	Member
2004-present	Massachusetts Society of Interventional Pain Physicians	Member

2003-present	American Society of Interventional Pain Physicians	Member
2003-present	North American Neuromodulation Society	Member
2006-present	Spine Intervention Society (SIS)	Member
2006-present	Massachusetts Society of Interventional Pain Physicians	Past President, and Current CEO

Editorial Activities:

Ad hoc Reviewer

2001-2002, Regional Anesthesia & Pain Medicine
 2009 – present, Neuromodulation
 2017 – present, Pain Practice
 2107 – present, Pain Medicine

Other Editorial Roles

2017-present	Section Editor	Pain Physician
2004-16	Editorial Advisory Board	Pain Physician
2013-present	Editorial Board	Journal of Substance Abuse & Alcoholism
2021-present	Associate Editor Neuromodulation	Interventional Pain Medicine

Honors and Prizes:

1990	Nathan and Bertha Richter Basic Science and Ford Fellow Research Award	Brandeis University Waltham, MA
1991	Phi Beta Kappa member of Mu of Massachusetts	Brandeis University Waltham, MA
1991	Summa Cum Laude BA/MA Biochemistry	Brandeis University Waltham, MA
1991	Melvin M. Snider Prize in Chemistry	Brandeis University Waltham, MA
1991	Student Award for the Outstanding Senior Majoring in Chemistry	New England Institute of Chemists, Boston, MA
1995	Medical Student Research Award in Anesthesiology	Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA
2003-04, 2010-11	“Teacher of the Year in Pain Management”	Beth Israel Deaconess Medical Center, Harvard Medical School
2017-22	Top Doctor in Pain Medicine	Boston Magazine/ Castle Connolly Ltd

2018	Academic Achievement Award	American Society of Interventional Pain Physicians
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Report of Funded and Unfunded Projects

Funding Information:

Past

2002-2004	Advanced Neuromodulation Systems-Evaluation of a New Pulse Generator, PI
2004-2007	Advanced Bionics-Evaluation of Spinal cord stimulation in Axial Low Back Pain, PI
2004-2007	Arthrocare-Plasma Disc Decompression Compared to Epidural Steroid Injection for Disc Herniation, PI
2007	Advanced Neuromodulation Systems -Spinal Cord Stimulation for the Treatment of Refractory Angina, Co-PI
2014	Saint Jude Medical- Spinal Cord Stimulation vs. Spinal cord and Peripheral Field Stimulation for Low Back Pain, PI
2015	Boston Scientific – Relief Study: Long-term Evaluation of Spinal Cord Stimulation for the Management of Low Back Pain, PI

Current

2019	Sollis: Therapeutics: A Prospective, multicenter, randomized, double-Blinded, sham-Controlled study to evaluate the efficacy and safety of clonidine micro-pellets for the treatment of pain associated with lumbosacral radiculopathy in adults: RePRIEVE-CM Co PI
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Unfunded Current Projects

2017-22	Complications and outcomes of Spinal Cord Stimulators Creation of a data base for Quality and Safety, PI
2017	10 kHz Spinal Cord Stimulation (SCS) for the Treatment of Complex Regional Pain Syndrome: A Case Series of Patients with or without Previous SCS Implantation, PI

Report of Local Teaching and Training

Teaching of Students in Courses:

2001 & 2002	Chronic Facial Pain Annual Orofacial Pain Course 3rd year Dental Students	Harvard Dental School, Boston MA 1 hour per year
2005 & 2006	Annual acute pain management 3rd year medical students	Harvard Medical School, Boston MA 1 hour per year

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs):

2001- present	Morning Didactic Lecture Chronic Pain Topics Fellows and Residents	Beth Israel Deaconess Medical Center, Boston, MA 1-hour bimonthly
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2001-2005	Acute Postoperative Pain 1st year surgery residents	Beth Israel Deaconess Medical Center, Boston, MA 1-hour monthly
2001-2005	Various Pain Management Strategies 1st-3rd year Anesthesia residents	Beth Israel Deaconess Medical Center, Boston, MA 1-hour monthly

Laboratory and Other Research Supervisory and Training Responsibilities:

2001-present	Supervise and train 6-8 Fellows per academic year in Pain	Beth Israel Deaconess Medical Center/ Arnold Warfield Pain Medicine Center, Brookline, MA 10 hours per week
2015-present	Supervision of pain research fellow	Beth Israel Deaconess Medical Center/ Arnold Warfield Pain Medicine Center, Brookline, MA 1 hour per week

Formal Teaching of Peers (e.g., CME and other continuing education courses):

2004-2006	Pain Management for the Non-Pain Specialist, Implantable therapies for pain; "New modalities for low back pain, guided tour of pain treatment procedures, Overview of low back pain".	Harvard Medical School Boston, MA
2003	Invited Speaker and moderator: Feasibility and Safety of Chronic Pain Blocks Meeting	Society of Ambulatory Anesthesiologists Annual Meeting, Boston, MA
2001-2022	Evaluating and Treating Pain, Harvard Medical School New therapies for PHN, Intrathecal Therapies, Trouble-Shooting Implantable Technologies, Discogenic Low Back Pain, Pathophysiology of Low Back Pain Complex Regional Pain Syndromes, Peripheral Neuropathies & Spinal Cord Stimulation.	Harvard Medical School Boston, MA.
2002	Annual course on Anesthesia Update of Anesthesia Massachusetts Society for Anesthesiology-	Massachusetts Anesthesiology Continuing Education New Analgesics, Pain for the non-pain specialist, Interventional pain management
2002, 2013, 2019	Harvard Anesthesiology and Update Annual Course Lower Extremity Nerve Blocks, Recent Advances in Interventional Pain Management, Evidence Based Perioperative Management of the Opioid Tolerant Patient.	Harvard Medical School, Boston, MA
2006 – 2010	Head and Facial Pain Advanced Therapies for Head and Neck Pain	Harvard Medical School, Boston, MA

2015	Essentials of Orthopedic and Musculoskeletal Medicine: A Multidisciplinary Approach for the Primary Care Physician: "Low Back Pain and Neck Pain".	Harvard Medical School, Boston, MA
2017-19	Evaluating and Treating Pain: Course Co-Director and moderator	Harvard Medical School, Boston, MA
2020	Neuroscience Clinical Update Chronic Spine Pain: Strategies to Manage Opioid Medication	DHR Health, Edinburg, TX

Local Invited Presentations:

2002	Lecturer, Complex Regional Pain Syndromes I & II, Beth Israel Deaconess Medical Center, Boston, MA
2002	Lecturer, Psychiatry Clinical Conference, Beth Israel Deaconess Medical Center, Boston, MA
2003	Lecturer, Pharmacotherapy of Pain Symposium on Pain Management for Nurses at BIDMC, Beth Israel Deaconess Medical Center, Boston, MA
2004	Lecturer, Basics on Spinal Cord Stimulation resident conference, Spaulding Rehabilitation Hospital, Boston, MA
2004	Lecturer, Spinal Cord Stimulation, Anesthesia Grand Rounds, Boston Medical Center, Boston, MA
2005	Lecture, Management of Malignant Pain Clinical Conference: Hematology/Oncology, Beth Israel Deaconess Medical Center, Boston, MA
2005	Lecturer, New Modalities for Low Back Pain Nursing Symposium Taking the Mysteries out of pain, Beth Israel Deaconess Medical Center, Boston, MA
2006-2019	Lecturer, Application of radio-frequency technology to the dorsal root ganglion, Massachusetts General Hospital Boston, MA
2007	Lecturer, Application of radiofrequency technology to the dorsal root ganglion Morning conference, Brigham and Women's Hospital, Boston, MA
2008	Lecturer, Spinal Cord Stimulation Anesthesia Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA
2013	Lecturer, Update on Interventional Pain Management Procedures Anesthesia Grand rounds Beth Israel Deaconess Medical Center, Boston, MA
2014	Lecturer, Complex Regional Pain Syndromes Anesthesia Grand Rounds, Saint Elizabeth's Medical Center, Brighton, MA
2014	Lecturer, Pathophysiology of Low Back Pain and Interventional Pain Management Rheumatology Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA
2015	Lecturer, Pathophysiology of Low Back Pain and Interventional Pain Management Medical Staff Grand Rounds, Anna Jacques Hospital & Beth Israel Deaconess Medical Center, Boston, MA
2017	Lecturer, Opioids in Pain Management Grand Rounds, Milton Hospital, Milton, MA
2020	Lecturer, COVID 19 –Lessons Learned in Pain Medicine, Anesthesia Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA
2021	Lecturer, Chronic Spinal Pain and Management of Opioid Therapy, Pain Medicine Division, Massachusetts General Hospital, Boston, MA

Report of Regional, National and International Invited Teaching and Presentations

Regional

- 2006 Invited Speaker, Emerging Devices for Pain Management, Eastern Pain Association Annual Meeting
- 2012 Invited Speaker: Spinal Cord Stimulator Therapy for Pain Management. The International Association of Rehabilitation Professionals of New England & The Institute of Social & Rehabilitation Services at Assumption College. Spring Conference, Assumption College, Worcester, MA

National

- 2005 Visiting Professor in Anesthesiology UMDNJ, Cooper Hospital, NJ *Grand Rounds: Advances in Chronic Pain Management*
- 2005 Visiting Professor for Pain Management/Anesthesiology *Department of Anesthesiology*, Santa Clara Medical Center, CA *Grand Rounds: New Modalities in Chronic Pain Management*
- 2006 Invited Speaker: Pressure-Controlled Discography, Radiofrequency of the Dorsal Root Ganglion, Epidural Steroids & Vertebroplasty Workshops American Society of Regional Anesthesia & Pain Medicine, Fall Meeting, San Francisco.
- 2006 Invited Speaker: Advances in Chronic Pain & Implantable Devices for Chronic Pain Clinical Issues in Anesthesiology UMDNJ, Lake Placid, NY
- 2006 Invited Speaker: Advanced Modalities for Diagnosis & Treatment in Chronic Pain The New Hampshire Society of Interventional Pain Physicians Annual Meeting
- 2007 Invited Speaker: Failed Back Surgery Syndrome and Spinal Cord Stimulation Midwest Cadaver Implant Workshop, University of Cincinnati.
- 2007 Visiting Professor for Pain Management/Anesthesiology University of Louisville *Grand Rounds: Introduction to Spinal Cord Stimulation.*
- 2008 Invited Speaker: Failed Back Surgery Syndrome and Spinal Cord Stimulation Midwest Cadaver Implant Workshop, University of Cincinnati.
- 2010 Invited Speaker: Spinal Cord Stimulation Trials, workshops on Insertion of spinal cord stimulators discography/intra-discal therapies, cervical epidural steroid injections and epi-cranial stimulation. American Society of Regional Anesthesia & Pain Medicine, Fall Meeting, Phoenix, New Orleans, and Miami.
- 2015 Invited Chairperson: Emerging Concepts and Controversies in Interventional Pain Management. Annual Meeting: American Society of Interventional Pain Physicians. Orlando, Florida
- 2017 Lecturer, 10 kilo-Hertz Spinal Cord Stimulation Adoption and Use in My Clinical Practice Annual Pain Meeting, The Pain Society of the Carolinas, Duke Medical School, Durham, NC
- 2021 Lecturer, Evidence Based Perioperative Management of the Opioid Tolerant Patient. Anesthesia Grand Rounds, Indiana University, Indianapolis, In.

International

- 2007 Invited Speaker: Spinal Cord Stimulation for Axial Back Pain. The Neuromodulation Society of UK and Ireland and the British Stereotactic and functional Neurosurgery Group
- 2008 International Spine Intervention Society Annual Meeting Invited Speaker: Select Complications in Spinal Cord Stimulation
- 2013 Northwest Anesthesia Seminars, International Continuing Medical Education for the medical professional: Spinal cord stimulation, Intrathecal Therapies, Radiofrequency, Cryo-ablation, Percutaneous Discectomy, Spinal Injections, Complex Regional Pain Syndromes, Imaging and Discography for Low Back Pain

- 2020 Invited Speaker: High Frequency Spinal Cord Stimulation following SCS. International Neuromodulation Society, Neuromodulation Appropriateness Consensus Committee (NACC) Salvage for Failed Spinal Cord Stimulation Therapy.
- 2022 Invited Speaker: Chronic Opioid Therapy in the United State, Past, Present Future. 38th Annual Academic Congress- College of Anesthesiologists and Intensivists.
- 2022 Invited Speaker: Socioeconomic Disparities in the Utilization of Spinal Cord Stimulation Therapy in Patient s with Chronic Pain. International Neuromodulation Society, Neuromodulation Appropriateness Consensus Committee (NACC) Salvage for Failed Spinal Cord Stimulation Therapy.

Report of Clinical Activities and Innovations

Current Licensure and Certification:

- 1995-present BLS and ACLS Certification
- 1999-present Massachusetts State Medical License No. 159056
- 2000-present Boarded by the American Board of Anesthesiology
- 2001-present Boarded by the American Board of Anesthesiology in Pain Medicine

Report of Scholarship

Peer-Reviewed Scholarship in print or other media:

Research Investigations

1. **Simopoulos TT**, Jencks WP. *Alkaline phosphatase is an almost perfect enzyme.* Biochemistry. 1994; 33:10375-10380.
2. **Simopoulos TT**, Smith HS, Peeters-Asdourian, Stevens DS. *Use of meperidine in patient-controlled analgesia and the development of a normeperidine toxic reaction.* Arch Surgery. 2002; 137:84-88.
3. Malik A, **Simopoulos TT**, Elkersh M, Aner M, Bajwa Z. *Percutaneous radiofrequency lesioning of sensory branches of the obturator and femoral nerves for the treatment of non-operable hip pain.* Pain Physician. 2003; 6:499-502.
4. **Simopoulos TT**, Malik AB, Sial KA, Elkersh M, Bajwa JH. *Radiofrequency lesioning of the L2 ramus communicans in managing discogenic low back pain.* Pain Physician. 2005; 8:61-65.
5. **Simopoulos TT**, Kramer J, Nagda J. Aner M, Bajwa ZH. *Pulsed versus pulsed and continuous radiofrequency treatment of the dorsal root ganglion and segmental nerves in patients with chronic lumbar radicular pain: A pilot study.* Pain Physician. 2008; 11:137-144.
6. Bajwa ZH, **Simopoulos TT**, Pal J, Kraemer JJ, Chopra P, Nagda JV, et al. *Low and therapeutic doses of antidepressants are associated with similar response in context of multimodal treatment of pain.* Pain Physician. 2009; 12; 893-900.

7. Gerzten PC, Smuck M, Rathmell JP, **Simopoulos TT**, et al. *Plasma disc decompression compared with fluoroscopy-guided transforminal epidural injections of symptomatic contained lumbar disc herniation: A prespective randomized controlled trial.* J Neurosurg Spine. 2010; 12; 357-371.
8. Nagda JV, Davis CW, Bajwa ZB, **Simopoulos TT**. *Retrospective review of the efficacy and safety of pulsed and continuous radiofrequency lesioning of the dorsal root ganglion/segmental nerve for lumbar radicular pain.* Pain Physician. 2011; 14:371-376.
9. Slavin KV, Vaisman J, Pollock KL, **Simopoulos TT**, Kowlowitz E, et al. *Treatment of chronic intractable pain with a conventional implantable pulse generator: A meta- analysis of 4 clinical studies.* Clin J of Pain. 2013; 29:78-84.
10. Gill J, Aner M, Nagda JV, Keel JC, **Simopoulos TT**. *Contralateral oblique view is superior to the lateral view for interlaminar cervical and cervicothoracic epidural access.* Pain Medicine. 2014;16;1:68-80.
11. Gill JS, Nagda JV, Aner MM, Keel JC, **Simopoulos TT**. *Contralateral oblique view is superior to the lateral view for lumbar epidural access.* Pain Medicine. 2016; 17:839-850.
12. **Simopoulos TT**, Rosa H, Wootton RJ, Eichman DS, Gill JS. *A survey of spinal cord stimulator use by chronic pain patients while driving.* Neuromodulation. 2016; 19:487-491.
13. **Simopoulos TT**, Sharma S, Aner M, Gill JS. *The incidence and management of post-dural puncture headache in patients undergoing percutaneous lead placement for spinal cord stimulation.* Neuromodulation. 2016; 19:738-743.
14. Gill JS, Nagda J, Aner M, **Simopoulos TT**. *Cervical epidural contrast spread patterns in fluoroscopic antero-posterior, lateral, and contralateral oblique view: A three dimensional analysis.* Pain Med. 2017; 18(6):1027-39.
15. **Simopoulos TT**, Leffler D, Campbell D, Lin S, Barnett S, Gill JS. *Prospective assessment of pain and comfort in chronic pain patients undergoing interventional pain management procedures.* Pain Medicine 2018; 19(2):336-47.
16. Bryan Hoelzer, Mark A. Bendel, Timothy R. Deer, Jason Eldrige, David Walega, Zhen Wang, Shrif Costandi, MD; Gerges Azer, Wenchun Qu, Steven Falowski, MD; Stephanie A. Neuman, Susan Moeschler, Catherine Wassef, Christopher Kim, Tariq Niazi, Taher Saifullah, Brian Yee, Chong Kim Christine L. Oryhan, Joshua Rosenow, Daniel T. Warren, Imanuel Lerman, Ruben Mora, Salim M. Hayek, Michael Hanes, **Thomas T. Simopoulos**, Sanjiv Sharma, Chris Gilligan, Warren Grace, Timothy Ade, John P. Hunter, Daniel Choi, Deborah Y. Choi. *Spinal cord stimulator implant infection rates and risk factors: A multi-center retrospective study.* Neuromodulation 2017; 20(6):558-562.
17. Markus A Bendel, Travis O'Brien, Bryan C. Hoelzer, Timothy R Deer, Thomas P. Pittelkow, Shif Costandi, David R Walega, Gerges Azer, Salim M Hayek, Zhen Wang, Jason S Eldrige, Wenchun Qu, Joshua M Rosenow, Steven M Falowski, Stephanie A Neuman, Susan M Moeschler, Catherine Wassef, Christopher Kim, Tariqu Nazi, Taher Saifulah, Brian Yee, Chong Kim, Christine L Oryhan, Daniel T. Warren, Imanuel Lerman, Ruben Mora, Michael Hanes, **Thomas T. Simopoulos**, Sanjv Sharma, Chris Gilligan, Warren Grace, Timothy Ade, Nagy Mekhail, John P Hunter, Daniel Choi, Deborah Y Choi. *Spinal cord stimulator related infections: Findings from a multicenter retrospective analysis of 2737 implants.* Neuromodulation 2017;20(6):553-557.

18. **Simopoulos TT**, Sharma S, Aner M, Gill JS. *A temporary versus permanent anchored percutaneous lead trial of spinal cord stimulation: a comparison of patient outcomes and adverse events.* Neuromodulation 2018 21(5):508-512.
19. **Simopoulos TT**, Sharma S, Aner M, Gill JS. *The Long –term Durability of Multi-Lumen Concentric Percutaneous Spinal Cord Stimulator Leads.* Pain Practice 2018 18(7):845-49.
20. **Simopoulos TT**, Aner M, Sharma S, Ghosh P, Gill JS. *Explantation of Percutaneous Spinal Cord Stimulator Devices: A Retrospective Single Center 15-year Experience.* Pain Med 2019; 20(7):1355-1361.
21. **Simopoulos TT**, Sharma S, Wootton RJ, Orhurhu V, Aner M, Gill JS. *Discontinuation of Chronic Opiate Therapy After Successful Spinal Cord Stimulation Is Highly Dependent Upon the Daily Opioid Dose.* Pain Pract. 2019 11; 19(8):794-799
22. Orhurhu V, Olusunmade M, Akinola Y, Urits I, Orhurhu MS, Viswanath O, Hirji S, Kaye AD, **Simopoulos TT**, Gill JS. *Depression Trends in Patients with Chronic Pain: An Analysis of the Nationwide Inpatient Sample.* Pain Physician. 2019 09; 22(5):E487-E494.
23. Orhurhu MS, Salisu B, Sottosanti E, Abimbola N, Urits I, Jones M, Viswanath O, Kaye AD, **Simopoulos TT**, Orhurhu V. *Chronic Pain Practices: An Evaluation of Positive and Negative Online Patient Reviews.* Pain Physician 2019; 22(5):E477-486.
24. Orhurhu V, Agudile E, Chu R, Urits I, Orhurhu MS, Viswanath O, Oluabunwa E, **Simopoulos TT**, Hirsch J, Gill J. *Socioeconomic disparities in the utilization of spine augmentation for patients with osteoporotic fractures: an analysis of National Inpatient Sample from 2011 to 2015.* Spine J. 2020 Apr; 20(4):547-555.
25. Urits I, Cai V, Aner M, **Simopoulos TT**, Orhurhu V, Nagda J, Viswanath O, Kaye AD, Hess PE, Gill J. *Post Dural Puncture Headache, Managed with Epidural Blood Patch, Is Associated with Subsequent Chronic Low Back Pain in Patients: a Pilot Study.* Curr Pain Headache Rep. 2020 Jan 08; 24(1):1.
26. Gill J, **Simopoulos TT**, Orhurhu V, Nagda J, Aner M. *Lumbar Epidural Contrast Spread Patterns for the Interlaminar Approach: Three-Dimensional Analysis Using Antero-Posterior, Lateral, and Contralateral Oblique Views.* Pain Med. 2020 04 01; 21(4):747-756
27. Ghosh PE, Gill JS, **Simopoulos TT**. *The Evolving Role of High-Frequency Spinal Cord Stimulation as Salvage Therapy in Neurostimulation.* Pain Pract. 2020 09; 20(7):706-713.
28. Orhurhu V, Khan F, Salisu Orhurhu M, Agudile E, Urits I, Hasoon J, Owais K, Chu R, Ogunsola D, Viswanath O, Yazdi C, Karri J, Hirji S, Gill J, **Simopoulos TT**. *Obesity Trends Amongst Hospitalized Patients with Spinal Cord Stimulator Implants.* Adv Ther. 2020 11; 37(11):4614-4626.
29. Orhurhu V, Urits I, Olusunmade M, Olayinka A, Salisu Orhurhu M, Uwandu C, Aner M, Ogunsola S, Akpala L, Hirji S, Viswanath O, Karri J, **Simopoulos TT**, Gill J. *Cannabis Use in Hospitalized Patients with Chronic Pain.* Adv Ther. 2020 08; 37(8):3571-3583.
30. Hasson J, Urits I, Burroughs M, Cai V, Orhurhu V, Aner M, Yazdi C, **Simopoulos T**, Viswanath O, Kaye AD, Hess PE, Gill J. *Epidural Blood Patch does not Contribute to the*

Development of Chronic Low Back Pain in Patients who Undergo Lumbar Punctures: A Pilot Study. *Physchopharmacol Bull* 2020 Oct15; 50 (Suppl 1): 17-24.

31. Polshin V, Petro J, Wachtendorf LJ, Hammer M, **Simopoulos TT**, Eikermann M, Santer P. *Effect of peripheral nerve blocks on post-anesthesia care unit length of stay in patients undergoing ambulatory surgery: a retrospective cohort study.* *Regional Anesthesia and Pain Medicine* 2021 46:233-239.

32. Orhurhu V, Gao C, Agudile E, Monegro W, Urits I, Orhurhu MS, Olatoye D, Viswanath O, Hirji S, Jones M, Ngo A, Aiudi C, **Simopoulos TT**, Gill J. *Socioeconomic Disparities in the Utilization of Spinal Cord Stimulation Therapy in Patients with Chronic Pain.* *Pain Pract.* 2021; 21(1):72-82.

33. Hasson J, Urits I, Viswanath O, Varrassi G, **Simopoulos TT**, Kohan L, Gutierrez G, Orhurhu V, Aner M, Gill J. *Percutaneous Spinal Cord Stimulation Lead Placement under Deep Sedation and General Anesthesia.* *Pain Ther* 2021; 10:1719-1730.

34. Berger AA, Urits I, Hasoon J, Gill J, Aner M, Yazdi CA, Viswanath O, Cornett EM, Kaye AD, Imani F, Varrassi G, **Simopoulos TT**. *Improved Pain Control with Combination Spinal Cord Stimulator Therapy Utilizing Sub-perception and Traditional Paresthesia Based Waveforms: A Pilot Study.* *Anesth Pain Med* 2021; 11(1) e113089.

35. Sarrafpour S, Hasoon J, Urits I, Viswanath O, Imani F, Mahmoudi K, **Simopoulos TT**, Gill JS, Kohan L. *Antibiotics for Spinal Cord Stimulation Trials and Implants: A Survey Analysis of Practice Patterns.* *Anesth Pain Med* 2021; 11(5): e120611.

36. Hussain N, Gill J, Speer J, Abel-Rasoul M, Abd-Elsayed A, Khan S, Nguyen A, **Simopoulos TT**, Weaver T. *Evaluating the Incidence of Spinal Cord Injury after Spinal Cord Stimulator Implant: an Updated Retrospective Review* *Reg Anesth Pain Med* 2022;47:401-407.

37. Gill JS, Kohan LR, Hasoon J, Urits I, Viswanath O, Cai VL, Yazdi C, Aner M, Kaye AD, **Simopoulos TT**. *A Survey on the Choice of Spinal Cord Stimulation Parameters and Implantable Pulse Generators and on Reasons for Explantation.* *Orthopedic Reviews* 2022 <https://doi.org/1052965>.

38. Hussain N, Karri J, Dimitrov T, D'Souza RS, Zhou S, Rasoul MA, Elsayed AA, Gill JS, **Simopoulos TT**, Weaver TE. *Incidence and Predictors of Inadvertent Dural Puncture after Percutaneous Spinal Cord Stimulation: A Retrospective Data Base Analysis* *Neuromodulation* 2022 <https://doi.org/10.1016>

Reviews, chapters, monographs and editorials

1. **Simopoulos TT**, *Preemptive Analgesia*. Progress in Anesthesiology 2001; Volume XV (19):339-351.
2. **Simopoulos TT**, Bajwa ZH, *Opioids for Chronic Pain*. New England Journal of Medicine Watch Neurology 2004;6(4):30-31.
3. Dey, R, **Simopoulos TT**, *Failed Back Surgery Syndrome*. In: Warfield CA, and Bajwa ZH. Principles and Practice of Pain Medicine (Second Edition), McGraw-Hill, 2004.
4. **Simopoulos TT**, *Preemptive Analgesia*. In: Warfield CA, and Bajwa ZH. Principles and Practice of Pain Medicine (Second Edition), McGraw-Hill, 2004.
5. Elkersh M, **Simopoulos TT**, Bajwa ZH, *Fundamentals of Interventional Pain Medicine*. *The Neurologist* 2005;11(5):285-293.
6. Rathmell JP, **Simopoulos TT**, et al. *Low Back Pain*. In Ballantyne JC. The Massachusetts General Hospital Handbook of Pain Medicine (Third Edition), Lippincott Williams & Wilkins 2006.
7. Sial KA, **Simopoulos TT**, et al. *Cervical Facet Syndrome*. In Waldman SD. Pain Management (first, second Edition). Saunders-Elsevier 2007, 2011.
8. **Simopoulos TT**. *Management of Persistent Pain in the Opioid-Treated Patient*. In Smith HS and Passik SD. Pain and Chemical Dependency Oxford University Press 2008.
9. Burgest S, **Simopoulos TT**. *Failed Back Surgery Syndrome*. In Smith HS. Current Therapy in Pain Saunders Elsevier 2009.
10. Sial KA, **Simopoulos TT**, Malik AB. *Suprascapular Nerve Block*. In Manchikanti L. and Singh V. Interventional Techniques in Chronic Non-Spinal Pain ASIPP Publishing 2009.
11. Vaynberg E, **Simopoulos TT**. *Brachial Plexus Blocks*. In Manchikanti L. and Singh V. Interventional Techniques in Chronic Non-Spinal Pain ASIPP Publishing 2009.
12. Nguyen S, **Simopoulos TT**. *Upper Extremity Nerve Blocks*. In Manchikanti L. and Singh V. Interventional Techniques in Chronic Non-Spinal Pain ASIPP Publishing 2009.
13. **Simopoulos TT**. *Prescription Opioid Abuse in the US: The Perfect Storm with No Proven Strategies to Mitigate the Escalating Problem*. Journal of Subs Abuse & Alcohol 2013;1(1):1001-3.
14. Parikh A, **Simopoulos TT**, *Preemptive Analgesia*. In: Bajwa ZH, Wootton RJ, and Warfield CA. Principles and Practice of Pain Medicine (Third Edition), McGraw-Hill, 2017.
15. Gray DP, **Simopoulos TT**, *Facetogenic Pain*. In: Bajwa ZH, Wootton RJ, and Warfield CA. Principles and Practice of Pain Medicine (Third Edition), McGraw-Hill, 2017.
16. Elliot JA, **Simopoulos TT**, *Neuromodulation for Pain* In: Bajwa ZH, Wootton RJ, and Warfield CA. Principles and Practice of Pain Medicine (Third Edition), McGraw-Hill, 2017.
17. **Simopoulos TT**, *Neck Pain* In: Bajwa ZH, Wootton RJ, and Warfield CA. Principles and Practice of Pain Medicine (Third Edition), McGraw-Hill, 2017.

18. Helm S, **Simopoulos TT**, Stojanovic M, Abdi S, Terany MA. *Effectiveness of Thermal Annular Procedures in Treating Discogenic Low back Pain*. Pain Physician 2017 Sept; 20(6):447-470.
19. Jani S, **Simopoulos TT**. *Sacroiliac Joint Interventions*. In: Manchikanti L, Kaye AD, Falco FJE, Hirsch JA. Essentials of Interventional Techniques in Managing Chronic Pain. Springer, 2018.
20. Jones MR, Viswanath O, Peck J, Kaye AD, Gill JS, **Simopoulos TT**. *A Brief History of the Opioid Epidemic and Strategies for Pain Medicine*. Pain Ther 2018; 7(1):13-21.
21. Ghosh P, **Simopoulos TT**. *A review of the Senza System: a novel, high frequency 10 kHz (HF 10), paresthesia free spinal cord stimulator*. Pain Manag 2019; Jan 30 doi. 2217/pmt2018-0077.
22. Jones MR, Novitch MB, Sarrafpour S, Ehrhardt KP, Scott BB, Orhurhu V, Kaye AD, Gill JS, **Simopoulos TT**. *Government Legislation in Response to the Opioid Epidemic*. Curr Pain Headache Rep 2019 May 1;23(6):40
23. **Simopoulos TT**, Yazdi C. *Percutaneous Trial of Spinal Cord Stimulation for Complex Regional Pain Syndromes & Permanent Percutaneous Spinal Cord Stimulator Procedures*. In Arle J. The Neuromodulation Case Book Elsevier 2020.
24. Deer TR, Esposito MF, McRoberts WP, Grider JS, Sayed D, Verrills P, Lamer TJ, Hunter CW, Slavin KV, Shah JM, Hagedorn JM, **Simopoulos T**, Gonzalez DA, Amirderlfan K, Jain S, Yang A, Aiyer R, Antony A, Azeem N, Levy RM, Mekhail N. *A Systematic Review of Peripheral Nerve Stimulation Therapies for the Treatment of Pain*. Pain Med 21(8):1590-1603.
25. **Simopoulos T**. *Evidence based perioperative management of the opioid tolerant patient*. Curr Rev Clin Anesth 2020; 40(14):173-188.
26. Urits I, Orhurhu, Callan J, Maganty NV, Pousti S, **Simopoulos TT**, Yazdi C, Kaye RJ, Eng LK, Kaye AD, Manchikanti L, Viswanath O. *Sacral Insufficiency Fractures: A Review of Risk, Factors, Clinical Presentation and Management*. Curr Pain Headache Rep 2020;24(3):1916.
27. Sarrafpour S, Urits I, Powell J, Nguyen D, Callan J, Orhurhu V, **Simopoulos T**, Viswanath O, Kaye RJ, Cornett EM, Yadi C. Considerations and Implications of Cannabidiol Use During Pregnancy. Curr Pain Headache Rep. 2020; Jun10;24(7):s11919-020.
28. Capuco A, Urits I, Hasoon J, Chun R, Gerald B, Wang JK, Kassem H, Ngo AL, Abd-Elsayed A, **Simopoulos T**, Kaye AD, Viswanath O. *Current Perspectives on Gut Microbiome Dysbiosis and Depression*. Adv Ther. 2020 Apr; 37(4):1328-1346.
29. Capuco A, Urits I, Hasoon J, Chun R, Gerald B, Ngo AI, **Simopoulos T**, Kaye AD, Colantonio MM, Parker-Actlis TQ, Fuller MC, Viswanath O. *Gut Microbiome Dysbiosis and Depression: a Comprehensive Review*. Curr Pain Headache Rep. Jun 6; 24(7):s11916-020.
30. Urits I, Berardino K, Artounian KA, Bandi P, Jung JW, Kaye RJ, Manchikanti L, Kaye AM, **Simopoulos T**, Kaye AD, Torres M, Viswanath O. *The Use of Antineuropathic Medications for the Treatment of Chronic Pain*. Best Pract Res Clin 2020 Sep; 34(3):493-506.

Case reports

1. **Simopoulos TT**, Asdourian, CP. *Pneumocephalus after Cervical Epidural Steroid Injection*. *Anesth Analg* 2001; 92(6):1576-1577.
2. Elkersh M, **Simopoulos TT**, Cho E, Bajwa Z. *Epidural Clonidine Relieves Intractable Neuropathic Itch Associated with Herpes-Zoster Related Pain*. *Reg Anesth Pain Med* 2003; 28:344-46.
3. Hosny, A, **Simopoulos TT**, Collins, B. *Response of Intractable Post Herpetic Neuralgia to Intrathecal baclofen*. *Pain Physician* 2004; 7:345-347.
4. Ramanavarapu V, **Simopoulos TT**. *Pulsed Radiofrequency of Lumbar Dorsal Root Ganglia for Chronic Post-Amputation Stump Pain*. *Pain Physician* 2008; 11:561-6.
5. **Simopoulos TT**, Kramer J, Glazer P, Bajwa ZH. *Vertebral Osteomyelitis: A Potentially Catastrophic Outcome after Lumbar Epidural Steroid Injection*. *Pain Physician* 2008; 11:693-697.
6. Lowry A, **Simopoulos TT**. *Spinal Cord Stimulation for the Treatment of Chronic Knee Pain Following Total Knee Replacement*. *Pain Physician* 2010; 13(3):251-256.
7. **Simopoulos TT**, Bajwa ZH, Lantz G, Lee S, Burstein R. *Implanted Auriculotemporal Nerve Stimulator for the Treatment of Refractory Chronic Migraine*. *Headache* 2010; 50(6):1064-1069.
8. Bernardini, DJ, Pratt SD, Takoudes T, **Simopoulos TT**. *Spinal Cord Stimulation and the Pregnant Patient- Specific Considerations for Management: A Case Series and Review of the Literature*. *Neuromodulation: Technology at the Neural Interface* 2010; 13(4):270-274.
9. Rhame E, Debonet A, **Simopoulos TT**. *Ultrasonographic Guidance of Cryoanalgesic Lesions in Treating a Case of Refractory Sural Neuroma*. *Case Reports in Anesthesiology* 2011; 2011(Article ID 691478):1-4.
10. **Simopoulos TT**, Nagda J, Aner M. *Percutaneous radiofrequency lesioning of the suprascapular nerve for the management of chronic shoulder pain: A case series*. *J of Pain Res* 2012; 5:91-97.
11. **Simopoulos TT**, Gill JS. *Magnetic Resonance Imaging of the Lumbar Spine in a Patient with a Spinal Cord Stimulator*. *Pain Physician* 2013; 16:E295-E300.
12. Chaudry ZA, Najib U, Bajwa ZH, Jacobs C, Shiekh J, **Simopoulos TT**. *Detailed Analysis of Allergic Cutaneous Reactions to Spinal Cord Stimulator Devices*. *J of Pain Res* 2013; 6:617-23.
13. Jang SS, Arle JE, Gill JS, **Simopoulos TT**. *Case Series on Variable Presentation of Ligamentum Flavum Stimulation Following Percutaneous Cylindrical Spinal Cord Stimulator Lead Implants*. *Pain Physician* 2014; 17:E397-403.
14. Spinner D, Aner M, Paul G, **Simopoulos TT**, Gil JS. *Percutaneous Translaminar Facet Cyst Rupture and Epidural Access-Description of a Novel Technique*. *Pain Med* 2017; 18(3):410-413.

15. **Simopoulos TT**, Yong JR, Gill JS. *Treatment of Chronic Refractory Neuropathic Pelvic Pain with High Frequency 10 Hz Spinal Cord Stimulation*. Pain Pract 2018; 18(6):805-9.
16. Petro J, Urits I, Jones MR, Gill JS, **Simopoulos TT**. *Diagrammatic Analysis of Subarachnoid Contrast Spread in the Contralateral Oblique View: a Technical Report*. IPM Reports 2018;
17. Gill JS, Asgerally A, **Simopoulos TT**. *High Frequency Spinal Cord Stimulation at 10 kHz for the Treatment of Complex Regional Pain Syndrome: A Case Series of Patients with or without Previous Spinal Cord Stimulator Implantation*. Pain Pract 2019; 19(3):289-94.
18. Urits I, Osman M, Viswanath O, Kaye AD, **Simopoulos TT**, Yazdi C. *A Case Study of Combined Perception-based and Perception Free Spinal Cord Stimulator Therapy for the Management of Persistent Pain after a Total Knee Arthroplasty*. Pain Ther. 2019 Dec 8(2):281-284.
19. Berger AA, Urits I, Hasson J, **Simopoulos T**. *Alleviation of Notalgia Paresthetica with Duloxetine after Several Lines of Failed Treatment: A Case Report*. Case Rep Women's Health 2020; Mar30(26):1-3.
20. Sakellariou A, Alexander L, Gill JS, **Simopoulos TT**. *Spinal Cord Stimulation in the Treatment of Neuropathic Pain Associated with Syringa Development after Cervical Epidural Steroid Injection*. Pain Med Case Rep 2020; 4(4):113-119.
21. Burns JC, Sakellariou A, Orhurhu V, Viswanath O, Ngo AL, Kaye AD, **Simopoulos T**, Elkersh MA, Yazdi C. *Combined Paresthesia and Sub-perception Spinal Cord Stimulator Therapy for Management of Persistent Pain after Spinal Fusion Surgery for Congenital Scoliosis*. Pain Med Case Rep 2020; 5(1):33-36.
22. Gillis J, Southerland WA, Kaye AD, Eskander JP, Pham AD, **Simopoulos T**. *Spinal Cord Stimulation for Total Knee Replacement Pain: A Case Series*. Case Reports Orthop Rev (Pavia) 2022;3;14(3):33835.
23. Al-Jumah R, Gill J, **Simopoulos TT**. *Cervical Spinal Cord Tumor Complicated by Epidural Abscess*. Interventional Pain Med 2022;1:100156.

Letters to the Editor

1. Simopoulos T. *No Consistent methodology use in application of RF to allow valid comparisons: In Response*. Pain Physician. 2008;11(3):379-80.
2. Gill JS, Aner M, Simopoulos TT. *Intricacies of the contralateral oblique view for interlaminar epidural access*. Pain Medicine. 2013; (14)8:1265-6.
3. Gill JS, Stojanovic M, Simopoulos TT. *In defense of the meticulous: A case against ambiguity, and time to standardize*. Pain Physician. 2016; 19:E657-E658.
4. Gill JS, Simopoulos TT. *The devil is in the details*. Anesthesiology. 2016; (124)1:241.
5. Gill JS, Simopoulos TT. *Optimal angle of contralateral oblique view in cervical inter laminar epidural injections: Safety or precision*. Pain Physician. 2017; (20)3:E478-79.

6. Gill JS, Simopoulos TT. *Reliability and safety of contra-lateral view for inter laminar epidural needle placement: Standardization of the appropriate angle*. Pain Physician. 2017; 20(3):E469.
7. Gill J. Simopoulos TT. *Reliability and accuracy of MRI laminar angle measurements to determine intra-procedural contralateral oblique view angle for cervical or thoracic inter laminar epidural steroid injections-safety before accuracy*. Pain Medicine. 2017; 18(11):2256-57.
8. Viswanath O, Petro J, Asgerally A, Simopoulos TT. *Don't Believe Everything You Read: Perspectives from Your New Pain Physician*. Pain Phys 2018; 21(3):E281-E283.
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1. Gosh P, Gill JS, **Simopoulos TT.** High Frequency Spinal Cord Stimulation at 10 kilo Hertz as Salvage Therapy for Unsuccessful Traditional Spinal Cord Stimulator Trials and Implants. Presented at the North American Neuromodulation Society. Las Vegas, NV, 2019.
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Expert Trial Testimony Past 5 years:

- A. Rogers v. Chartwell Management LLC, North Point Holding
Civil Action No: 218-2020-000684.
Rockingham Superior Court
Brentwood NH, 03833
Testimony on 11/3/22
Expertise in Complex Regional Pain Syndrome.